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ROBERT BATTEY GREENOUGH

The Medical Aptitude Test

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THE admission of students to medical schools before 1920 was evidently an extremely simple matter as no effort to select them was possible. The number of applicants meeting technical requirements for admission, although increasing from the low period of 1912, barely exceeded the capacity of medical schools. The good, indifferent, and even bad applicant, no matter what standards of scholastic, cultural or ethical training he may have chanced to possess, if he had the quantitative qualifications of subject matter and years in college, entered medical schools with ease even if he may not have succeeded in finally completing the course.

With the increasing number of applicants some selective method had to be developed and fortunately this took the form of quality credentials rather than an increased amount of prescribed course requirements. Prospective scholastic ability was made a subject of inquiry and almost as a matter of course an attempt was made to measure this by the quality of premedical work as indicated by college grades. That too is a reasonably accurate method, provided the medical school draws students largely from one college, even though there are always upsetting exceptions, with the moderately efficient scholar doing medical work of excellent quality and the Φ B \K being dropped for scholastic deficiency. But when a medical school admits students from many colleges, as is the case at Harvard, the correlation between college grades and performance in medicine tends to be poor. One finds that high grades in one college

are not at all the same as high grades in another. And within the same college much burning of "midnight oil" may result in evidences of brilliance not warranted by performance in the medical school for it is the quality of mental equipment rather than large accumulations of college examination material that almost surely determines future professional proficiency.

Grades were thus only fairly satisfactory measures of a student's mental equipment and some other measuring device was greatly needed. The Aptitude Test, long used in other fields, was first mentioned in a general paper by Robertson (Jour. A. M. A. Vol. 92, p. 1402), and later in a series of papers appearing in the Journal of the Association of American Medical Colleges since 1930 by F. A. Moss, the originator of the test. It appeared to offer a useful supplementary method for determining scholastic prowess, and the test was quite generally accepted for the class entering in September 1931. At the least it gave a uniform examination of some 10,000 applicants each year, all graded by a group of experienced examiners on a uniform basis, and furnished a potential method of evaluating the grades coming from some 600 or more colleges. The test is somewhat like that of the College Entrance Board Scholastic Aptitude Test and is designed also to measure scholastic aptitude but with special reference to aptitude for medical study. (Note that no claim is made that it can measure suitability for medical practice). Its expanding popularity with admitting committees is perhaps indicated by the growing number of men

admitted who had test scores to offer, in a four year period the number increasing from 67 to 80 per cent.

The nature of the test may be described briefly. In the test given in December 1936 five items were made a subject for measurement.

The first, an inquiry into the student's information about general matters, is designed to measure his general and cultural background. It consisted of 110 selected statements counting the same in score points from the fields of History, Literature, Government, Economics, Geography, General Science, Sports and Transportation. The student records his opinion of these statements indicating whether true or false as the case may be. As an illustration of these 110 statements these may be suggested; "New Hampshire as did Maine gave Landon a plurality in the last election", and "Edwin Drood, an uncompleted novel, was written by Dickens".

Item 2, scientific vocabulary, counting 90 points is a specialized intelligence test based on the student's knowledge of the premedical sciences on the assumption that the more familiar he is with medical and scientific terms the better he is likely to handle his medical work. Such a test may also reveal interest as many of the items are terms found in general medical literature such as is easily available to lay readers. In this test the student has 15 items each in six lists, or 90 in all, which he matches from a numbered list of 15 synonyms as for example:—"pertaining to the ear" matched by the word "aural"; or "hardened" matched by "indurated".

Item 3, a spelling test, of 50 points consists of 50 moderately difficult words as diabetes, pneumonia, peripheral, etc., some of which are spelled incorrectly. The student indicates in each case whether the spelling is correct or incorrect. This test may eventually be dropped as it shows very little correlation with medical school scholastic performance.

Item 4, logical reasoning, counting 40 points, consists of a series of 20 premises

and conclusions based on a particular set of facts. The student again indicates whether or not the conclusion is justified. As an example of this type of test the following may be cited: "Practically all pathogenic cocci are Gram positive. The meningococcus is Gram negative; therefore the meningococcus is not pathogenic".

The fifth and final item, ability to understand printed matter, is perhaps the most significant of the several factors tested. It is designed to measure the student's power to read quickly and to demonstrate understanding as revealed by his ability to answer in a word or two a series of 30 questions, counting 90 points, based on approximately 1,000 words of a difficult printed discussion. The student may use for this all the remaining time of the one hour and forty minutes of the whole test. He may read and if he has time reread the passage and may freely refer to it as he attempts to answer correctly the 30 questions. Space does not permit a suitable illustration but a brief example will indicate its type. "Various reflexes use the same final common path for different purposes or for similar purposes. Afferent arcs which use it for the different purposes cannot have possession of it simultaneously and they must take their turn, as it were. One reflex may defer or cut short another." The possible question might be, can different reflexes pass afferent arcs at the same time? This seems quite simple with so brief a quotation but one must recall the thousand word statement and the 30 answers that must be collected in a brief space of time. It would appear to measure quickness, sound perception and understanding and shows high correlation with eventual performance.

But what kind of correlation with medical school grades is shown by the thousands who enter medical schools partly on the basis of aptitude grades? Data may be secured from the published studies of Moss representing an analysis of the records of a very large number of medical students and we may examine the records

of our own students which are now available for the classes of 1935 and 1936. These may be supplemented by the records of the present third and fourth year classes based on their medical class rank after two and three years work respectively.

The Moss report in the Journal of the Association of American Medical Colleges, September 1936, is offered to show large scale studies of results in the average medical school. The four year medical record

served internships and have taken licensing examinations. Success as internes seems roughly predictable from this data. Hospitals were asked to rate the men being studied as internes in five categories:—
1. Equal to the best interne. 2. Above average, but not best. 3. Equal to average. 4. Below average, but not poorest. 5. Among the poorest internes. Those with highest tenth scores rated 1.8 as internes; those with lowest tenth scores averaged 3.4. 42 per cent with the highest scores

TABLE I.
Percent Dropped Students of Whole Number in Each Aptitude Group.

Aptitude	Top Fifth	4th.	3rd.	2nd.	Lowest
Class of 1935, 4 year record	3.5	7.5	12.5	28.5	41.0
Class of 1936, 3 year record	5.5	10.0	13.5	21.0	37.0
Class of 1937, 2 year record	3.3	7.5	9.5	17.5	28.5
Class of 1938, 1 year record	6.0	8.0	14.5	19.0	27.0

TABLE II.
Aptitude and Average Medical Grades

Aptitude	Top Fifth	4th.	3rd.	2nd.	Lowest
Class of 1935, 4 year record	83.9	82.3	80.2	78.2	73.6
Class of 1936, 3 year record	84.1	82.4	80.7	79.9	75.3
Class of 1937, 2 year record	84.4	82.8	81.1	79.0	75.5
Class of 1938, 1 year record	83.7	81.8	79.7	78.0	75.8

is tabulated there for the first class admitted after the Association undertook to apply the test in pre-medical colleges. Dividing the students (about 3500) into fifths on the basis of their aptitude rating one notes a gradually declining medical grade average and an increasing number of dropped students as the scores pass from the highest to the lowest group. This is shown with data also from other classes in Tables I and II.

In this report also are figures on an early experimental group of 1500 students, who took the test prior to 1931 as freshmen in a group of medical schools, and who have

were in group 1 and 5 per cent only from the lowest scoring group were of this rank. Again on the basis of licensing examinations, from the National Board, Pennsylvania and New York State figures, one has the evidence in Table III which indicates the same trend as in other data noted above. The upper fifth aptitude group have an 18 to 1 chance over the lowest fifth to rank above a grade of 90 or more, and a 3 to 1 chance to make a grade above 85. The lower fifth are more likely to secure grades below 79 by a 2 to 1 ratio and to make grades below 75 by 5 to 1.

TABLE III.
Results from Board Examinations

Grades	90 and up	85-89	80-84	75-79	Below 75
Percent Highest 5th Aptitude	3.6	31.8	46.4	16.8	1.4
Percent Lowest 5th Aptitude	0.2	12.2	48.6	31.8	7.2

The results of our own study of the correlation between aptitude and medical school grades are similar to those reported for medical schools generally. The accepted students at this school appear to have very high aptitude scores, averaging 33 percentile higher than the median whereas the score of the average medical school shows an average less than 10 percentile above the median of all those taking the test. The median at this school is even higher, 88 percentile, indicating a large preponderance of men ranking in the upper 10th of those examined by this test. Because of the concentration of high scores the records are not analyzed by fifths but on the basis of actual percentile scores in groups as is

with high grades but low aptitude is particularly noteworthy.

As a possible explanation it has been said that some applicants took the new test with indifference, especially in the first year it was given. Later data are somewhat more in line with expectancy.

It seems clear from these data that the Medical Aptitude Test has general but not specific validity in selecting medical students of high scholastic promise. It is also clear that there is no one available method of invariably predicting such results. In accepting students, (and this is the method of the Harvard Committee) it is important that college grades, the college quality, and the aptitude test should all be considered,

TABLE IV.
Aptitude and Percent by Thirds in Each Group

Class 1935					
Aptitude	99-95	94-90	89-80	79-60	59 and below
1st. third, percent	48	47	17	15	54
2nd. third, percent	28	41	44	46	15
3rd. third, percent	24	12	39	39	31
Class 1936					
1st. third, percent	64	43	27	31	11
2nd. third, percent	24	29	47	23	33
3rd. third, percent	12	28	26	46	56
Class 1937, 3 year record					
1st. third, percent	60	31	35	26	8
2nd. third, percent	10	38	35	36	31
3rd. third, percent	30	31	30	38	61
Class 1938, 2 year record					
1st. third, percent	43	21	50	32	15
2nd. third, percent	34	54	27	32	30
3rd. third, percent	23	25	23	36	55

indicated in Table IV. In each class approximately 100 men have test scores and in each sub group the figures are based on a few men only. This may explain, at least in part, certain discordant results and yet the tabulations show that the test while not infallible has a definite value in predicting scholastic prowess. The number of men, 54 per cent, in the class of 1935

with the realization that such factual data may be misleading in an individual case—that a few good men will unfortunately be rejected because of their college, or their grades, or their aptitude score and that a few weak students will be discovered in almost any medical class in spite of honor degrees from excellent colleges and high aptitude scores.

Robert Battey Greenough

A.B. '92, M.D. '96—1871-1937

Robert Battey Greenough died of heart disease on February 16, 1937.

The comprehensive and excellent obituary in a recent number of the *New England Journal of Medicine*,* written by a life long friend and colleague, makes it superfluous for us to recapitulate here the numerous honors and distinctions which came to Dr. Greenough during the course of an active life in the profession. Following his medical school graduation, he served as surgical interne at the Massachusetts General Hospital, supplemented by a brief period of study abroad. He returned to the Harvard Medical School and to the Massachusetts General Hospital to follow a career as surgeon and teacher of surgery in both these institutions until his retirement at the age of sixty.

While it is premature to attempt appraisal of his contributions in any field, we may be justified in reviewing some of his activities and interests as surgeon, teacher, student, and executive, as well as his relations to his colleagues and patients.

His surgical apprenticeship was served under Dr. J. Collins Warren, shortly after the publication of the *International Text-book of Surgery* which had clearly established Warren's status as a great scholar in surgery. Warren's interest in the problem of standardizing radical operations in malignant disease, aroused by Halsted's pioneer work, was communicated to Dr. Greenough. The radical breast operation, modified by Rodman, was brought to further refinement by Dr. Greenough during his years at the Massachusetts General Hospital, where for some time he held an assignment of cases of carcinoma of the breast. He early took an interest in trying to sharpen the criteria of operability, to avoid needless operations. He was one of the first to advocate routine preoperative

x-ray studies to rule out the presence of remote metastases. Tumors of the bone, and malignancy of the mouth and neck were clarified and studied, and appropriate operative procedures adopted and taught. Almost of necessity, Dr. Greenough became also a master of plastic surgery, and few excelled him in the technique of skin grafting. Throughout his work with malignant disease he insisted on the closest cooperation with the pathological department. Indeed, his own training and experience in the field of pathology qualified him as few others have been qualified to serve in the dual role of pathologist and surgeon. In this connection he was active in developing operative technique for exploration and biopsy of suspected neoplasms. At the Huntington Memorial Hospital, where he served as Surgeon-in-Chief for a number of years, he was concerned with defining the relations and respective fields of radiation and surgery. Later he used electrosurgical apparatus and learned its limitations, helped in this, no doubt, by his earlier experience with the Percy cautery in treating carcinoma of the cervix.

His outstanding characteristic as a teacher was his faith in the educability of mankind. With indefatigable enthusiasm campaigns were organized to teach undergraduates, post-graduates, and the laity. Lectures were carefully prepared, orthodoxy was crystalized in an outline, lantern slides were chosen to illustrate the points, clinics were arranged, all with the hope that part of the seed at least would fall on fertile ground. The various cancer campaigns and weeks, the postgraduate extension courses of the Massachusetts Medical Society and the publicity activities of the American Society for the Control of Cancer, all owed much to Dr. Greenough's effort and zeal, and much also to his genius for organization. As an individual pre-

*N. E. J. Med. 216, 1937, 439.

ceptor and tutor, he lacked any trace of didacticism. His house officers and juniors were encouraged to investigate problems for themselves, to study a series of cases, with an occasional hint or suggestion as to the most profitable direction in which to pursue the quest. Criticisms were mild and did not discourage, laziness was incomprehensible to him, and he was rich in expressions of appreciation of work well done. Thus he stimulated a large group of associates and juniors to productive work in their various fields.

His own studies and researches were chiefly of a statistical sort, analyzing end-results of various procedures, and the factors influencing them. One of his earliest papers reported three-year end-results on carcinoma of the breast at the Massachusetts General Hospital for the years 1894-1904. Subsequent series, with only two interruptions, have reported end-results in carcinoma of the breast up to 1930. During this time there has been a progressive improvement in the results reported due in large measure to standardization of the operative technique and improved definition of the criteria of operability. His interest in end-results led him to define characteristics of varying grades of malignancy in carcinoma of the breast, following soon after Broder's work on epidermoid carcinoma of the mouth. Early analysis of end-results of the large series of cases of carcinoma of the cervix, assembled by the Committee for the Treatment of Malignant Disease of the American College of Surgeons, helped greatly in establishing the efficacy of radiation in the treatment of this disease. In his later years he devoted much time and study to the problems of the costs of medical care, and to the analysis and criticism of various group insurance and hospital prepayment proposals.

It was as an organizer and executive that he was most sought after by the professional world. His organization of the Tumor Clinic at the Massachusetts General Hospital with Dr. Holmes, his service as Director of the Huntington Memorial

Hospital, his place on the Cancer Commission of Harvard University, and his work on local hospital committees, are known to all of us. At various times he served as president of the Boston Surgical Society, of the Massachusetts Medical Society, and of the American College of Surgeons. At the time of his death he was president of the American Society for the Control of Cancer. These honors and distinctions signalized the years of intensive work on committees and boards, as executive secretary, chairman, or manager. He gave himself unstintingly to these tasks. His aptitude for them was in the best sense political. He understood how to direct without antagonizing; he could secure the essence if not the letter by a skillful compromise, he could conciliate by an expression of confidence. To secure the harmonious cooperation of antagonistic persons or groups is a high art and he was fully master of that art. The basis of this mastery lay in a complete belief in the objective, and a complete submission of himself to it. Thus his modesty and self-effacement in the face of these honors and distinctions was unassumed.

It remains to speak of him in his personal relations with others. He was gifted with a capacity for friendship which disregarded the limitations of age, social status, or difference of interest. He was an animated conversationalist and interlocutor, and in his hours of leisure could usually be found in the midst of a stimulated group. Well informed, and of wide interests; he kept abreast of new developments in diversified fields. Although fond of reading and fishing, the conventional recourses of solitude, his chief avocation was his fellow man.

In all his professional contacts, with patients, consultants, and colleagues, he was a little remote; kindly and friendly, but aloof. This did not prevent them from developing a great affection for him. He dealt kindly with the local practitioners, even though previous mismanagement of a patient might have justified anger or indignation. Thus the lesson to be derived

from the mismanagement was not lost on the erring physician. His juniors and house officers found in him a model of decorum and reticence in his dealings with and comments upon other members of the hospital staffs. His own ethical code found its best expression in his American College of Surgeons presidential address "The Conscience of the Surgeon". We can do no better than quote from this address the formulation of the ideals which he so completely exemplified.

"The association between the competent, conscientious surgeon and his junior assistants may be one of the most delightful and stimulating of human relationships. Unfortunately, not all surgeons are sufficiently altruistic to be able to withstand jeal-

ousy of the highly competent assistant or associate who is beginning to stand on his own feet; nor are all assistants and associates sufficiently loyal to their preceptors to avoid the suggestion of competition as they approach the inevitable end of their apprenticeship. There is in this case the need of keen conscience and an innate sense of justice and fair play on the part of the surgeon, as well as of the assistant or associate."

"In his relations with his consultants the surgeon must so conduct himself as to protect the interests of the physician as well as of the patient. . . It is the patient's welfare, however, which must be paramount, and that of the physician must give way if the two are definitely in conflict."

GRANTLEY W. TAYLOR, '22.

CURRENT ACTIVITIES AT THE HARVARD MEDICAL SCHOOL COURSES FOR GRADUATES

June 14-26. *Neurosyphilis*. By Drs. Solomon, Merritt, Moore and Viets at the Boston Psychopathic, Massachusetts General and Boston City Hospitals, and Harvard Medical School.

June 14-26. *Surgical Technique*. By Drs. Cutler and Zollinger at the Peter Bent Brigham Hospital and Harvard Medical School, Laboratory of Surgical Research.

June 21-July 31. *Internal Medicine—Diagnosis and Treatment*. By Dr. F. Dennette Adams and staff at the Massachusetts General Hospital.

June 28-July 24. *Clinical and Anatomical Neurology*—The practical application of the anatomy and physiology of the nervous system to clinical diagnosis. By Drs. Rioch and Merritt at the Boston City Hospital.

July 1-31. *Modern Diagnosis and Treatment of Heart Disease*. By Dr. Samuel A. Levine at the Peter Bent Brigham Hospital.

July 1-31. *Pediatrics*. By Dr. Harold L. Higgins at the Massachusetts General Hospital.

July 5-17. *Diagnosis and Treatment of Digestive Diseases*. By Drs. Keefer, Minot, Castle, Weiss, P. F. Butler and Associates at the Boston City Hospital.

July 12-16. *Clinical Allergy*. By Dr. Francis L. Rackemann at the Massachusetts General Hospital (mornings).

July 12-16. *Vaccines and Sera*. By Dr. Elliott S. A. Robinson at the Antitoxin and Vaccine Laboratory (afternoons).

Courses in General Internal Medicine, Roentgenology and Ophthalmology offered monthly.

ANNUAL MEETING

The annual meeting and luncheon of the Harvard Medical Alumni Association will be held at the Hotel Bradford, Boston at 12.30, on Tuesday, June 1, 1937. The meeting preceeding the luncheon will be brief. A new slate of officers and three new councillors will be elected at that time. The charge for the luncheon will be \$1.00. Tickets will be on sale at the registration desk.

The meeting is in conjunction with the annual meeting of the Massachusetts Medical Society, which opens at the Bradford on the same date.

ASSOCIATION OFFICERS

Edwin A. Locke, *President*
 Carl Binger, *Vice-President*
 Charles L. Short, *Secretary*
 Henry H. Faxon, *Treasurer*

COUNCILLORS

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T. B. Mallory	R. H. Miller
R. B. Cattell	R. W. French
V. P. Williams	A. Thorndike, Jr.

Conrad Wesselhoeft

EDITOR

Charles L. Short

BUSINESS MANAGER

Henry H. Faxon

*Room 111, Harvard Medical School
 Boston, Mass.*

EDITORIAL

Sources of Financial Aid for Students at The Harvard Medical School

SCHOLARSHIP FUNDS

The first scholarship fund was founded in 1881 by Edward M. Barringer, the principal of which now amounts to \$33,000. Since then no less than thirty-four more gifts and bequests have been made in the form of scholarships,* the total principal of which on June 30, 1936, amounted to approximately \$290,000.**

None of these scholarships is awarded to a student until he has been in residence at the school for at least one semester. Four scholarships are available to first year students after the first semester. The rest are awarded only to members of the three upper classes.

"In order to make it possible for young men of outstanding ability and promise to come to the Harvard Medical School, two or three Harvard Medical School Prize Scholarships will be offered in 1937 to incoming members of the First Year Class.

*Not all of these gifts are actually listed under scholarships.

**Statement of Treasurer of Harvard College for the fiscal year 1935-1936, p. 288.

These scholarships will carry a stipend sufficiently large, if necessary, to meet all the student's essential expenses. Successful applicants who maintain a high honor record at the Medical School will continue to hold these scholarships throughout the Medical School course.

"The offer of these scholarships is made possible by gifts from Mr. Edward S. Harkness, Dr. Daniel F. Jones, and others. The donors express the hope that through these scholarships superior men who would otherwise not receive a medical education will be enabled to attend the Harvard Medical School. They also express the hope that some of these men may wish to return to their own communities to carry on the practice of medicine.

"Since these scholarships are regarded as prizes to be competed for by all students whatever their financial circumstances, the stipend will vary from a minimum of \$100 to a maximum of \$1,200, depending on the financial resources of the recipient."*

FELLOWSHIP FUNDS

The three Bullard Fellowships established in 1891 have a total principal of \$30,000 as of June 30, 1936. "The income from any one or all of these fellowships may be paid to any student or member of the medical profession who shall be selected by the Administrative Board of the Medical School to make such original investigations in Medical Science as in their opinion will be most useful to the profession and to the community."** Undergraduates have held most of these fellowships, although a few have gone to graduates.

LOAN FUNDS

A very valuable source of financial aid to undergraduates lies in the Loan Funds. The first of these was established in 1840 by John Foster for the benefit of students at the Law School and Medical School. The next one was given in 1905 by Francis Skinner, and a loan fund was given in 1909

*Announcement of Harvard Medical School, 1936-1937, p. 31.

**Ibid, p. 30.

by the Medical School Class of 1879. The Aesculapian Club in recent years has been contributing annually to its loan fund, and in 1937 added \$750. There are now in all eleven loan funds, the total principal of which today is around \$150,000. In some of these funds the entire principal is put in circulation, while with others it has been necessary according to the wording of the gift to use only a part of the principal or only the income from the fund as invested by the Treasurer of Harvard College. On June 30, 1936, \$74,000 was in circulation, of which \$11,667 had been accepted in the form of new notes issued during the year.

The bulk of this principal lies in the David L. Edsall Revolving Loan, founded in 1927 by a gift of \$100,000 from Dr. Frederick C. Shattuck. Much of this has never been in circulation because it was necessary to determine how long it took for such funds to revolve. It has recently been determined that eight years are required. Now that this has been established, it is planned to put more of the principal in circulation.

Loans are applied to term bills, and only under very rare situations is cash provided. "Amounts up to \$400 may be loaned to a student during any one year and up to a total of \$1,000 during the course. Notes are payable two years after graduation, and 5 per cent interest is charged."

Application for financial assistance is made on a formidable blank supplied by the school office. In it the student must balance "to a penny" his budget for the ensuing year. To anyone who had filled this out, an income tax return would be mere child's play. It is difficult to imagine that any student would expend the time and energy to fill it out unless he were really hard up for help.

Loans are very much in demand, and the amount loaned each year is about equal to that given out in scholarships. Furthermore, they are being paid up in a gratifying manner. While notes are payable two years after graduation the Bursar has al-

ways shown a tendency to be lenient, as is obvious from the fact that loans actually revolve on the average of eight years. Reminders are sent out from the Bursar's office, and the holder of a loan must show honesty and sincerity in his reply. However, we note in the last Treasurer's Report one item of \$27.50 as "cost of collection" for one of these loans. We gather from this that the Bursar's quality of mercy had been strained to the limit by this delinquent, and it no longer dropped "like the gentle rain from heaven."

The following is an account of scholarships and loans for 1936-1937:

Class of 1937.

Applications for financial aid approximated \$8,955.

31 men applied for scholarships.

20 of these men were willing to take loans if they did not receive scholarships.

14 received scholarships amounting to \$3,525.

14 received loans amounting to \$3,000.
(5 of those receiving loans had also received small scholarships)

8 did not receive any aid.

Class of 1938.

Applications for financial aid approximated \$11,915.

48 men applied for scholarships.

29 were willing to take loans if they did not receive scholarships.

14 received scholarships amounting to \$3,375.

21 received loans amounting to \$4,200.
(1 of these also had a scholarship)

14 did not receive any aid.

Class of 1939.

Applications for financial aid approximated \$11,635.

49 men applied for scholarships.

25 were willing to take loans if they did not receive scholarships.

13 received scholarships amounting to \$2,850.

18 received loans amounting to \$3,500.

18 did not receive aid.

Class of 1940.

No scholarships are awarded until the men have been in residence one semester.

No loans are awarded to men in the first year class.

SICK BENEFIT FUND

One of the problems of the Medical School has been the financial plight in which some students living on a narrow margin find themselves when they fall sick. Each student is now required to pay an infirmary fee of \$20 a year. This insures him hospitalization for two weeks. Should his illness continue for longer than that period, and his finances become strained, he may be helped out through a fund recently donated by the Harvard Medical Alumni Association for this purpose. This fund was begun in 1937 with a gift from the Association of \$500.

EMPLOYMENT BUREAU

This year 120 students, out of a total of 526 enrolled in the School, obtained regular employment varying from minor positions to complete maintenance, and occasionally with salary in addition. About \$900 for miscellaneous work has also been given to students this year, \$200 to student typists and \$250 to student translators. Last summer more than fifty positions were filled by students who earned from \$100 to \$300 in addition to their expenses.

COMMENT

In many respects the curriculum of the School has changed materially from that of twenty-five years ago. There is, of course, much more exact science to be learned in many of the clinical subjects presented, just to mention cardiology, gynaecology, and the deficiency and infectious diseases. It has become increasingly difficult for the student to spend much of his time earning his way through school, because such work often impairs his ability to make the most of the opportunities afforded to familiarize himself with the many fields in which he is examined. The result of all this has been

a greater need for financial help along those lines which materially permit a better quality of work among needy and deserving students.

The present system of selection of men for each new class from a large number of applicants supplies the School with students of such superior qualities that it is highly desirable that financial assistance should be available for those who need it. It will be seen from the above that an awakened interest in the problem enables the Harvard Medical School to offer help in many ways. It is highly desirable that this interest be kept up among the Alumni in order that the funds for this purpose may increase.

CONRAD WESSELHOEFT, '11.

TWENTY-FIFTH REUNION OF THE CLASS OF 1912

The Harvard Medical School Class of 1912 will celebrate the quarter century since graduation on the afternoon of May 27th and on May 28th. The members will assemble at 2.00 P. M. on May 27th in the faculty room of the Medical School, where they will present to the school a sum of money particularly for use of the Library, as has been done by several previous classes. They will then inspect the library, the Students' Health Service and the School of Public Health. At 4:00 P.M. Dr. Christian will give a clinic indicating what he taught the class twenty-five years ago and contrast it with what he teaches today concerning the same subjects. That evening the class will dine at Vanderbilt Hall. On May 28th, the members will visit the Massachusetts General Hospital, assembling in the Dome at 9.30 A. M. and in the afternoon visit the Boston City Hospital, assembling at 2.15 P.M. in the Thorndike Memorial Laboratory. Toward the end of the afternoon Dr. Mallory will speak to the class in the Mallory Institute of Pathology. At 7 P.M. the members will attend a dinner at the Harvard Club of Boston where a few of their former teachers will speak, the principal speaker being Dr. Cannon.

AWARD OF THE HARVARD MEDICAL SCHOOL PRIZE SCHOLARSHIPS

In the autumn of 1936, announcement was made of the establishment of the Harvard Medical School Prize Scholarships to be awarded to men entering the first year of the Medical School. On April 12, 1937, the President and Fellows announced the award of these scholarships for the year 1937-1938. Scholarships have been awarded to the following men:

Ward Scott Fowler of Swarthmore College and Eldora, Iowa.

Carl Clinton Gardner, Jr., of Vanderbilt University and Columbia, Tennessee.

William Farnsworth Loomis, of Harvard College and Tuxedo Park, New York.

THE HARVARD MEDICAL SCHOOL PRIZE SCHOLARSHIPS

As a part of the new Harvard National Scholarship plan, prize scholarships will be awarded to two or more members of each class entering the Harvard Medical School. It is intended that these scholarships will perform two functions: first, recognize and encourage scholastic attainment, and, second, enable superior young men, otherwise unable to afford it, to come to the Harvard Medical School. These awards will be made first for the academic year 1937-38 on the following basis:

Each applicant for admission to the Harvard Medical School will be regarded as a candidate for a Harvard Medical School Prize Scholarship. These scholarships will be awarded as "prizes" to those members of the incoming class who, in the estimation of the appropriate committees, are deserving of them. The selection of these prize scholars will be made without reference to financial need, but the amount of the stipend awarded to each scholar will be in proportion to his actual necessities, except that a certain minimum award will be made to all prize scholars. In the event that a prize scholar has need of it, the amount of the award will be sufficient to

cover his essential expenses in the Medical School up to a maximum of \$1,200.

The prize scholarship will be awarded for one year. If during the first year as a medical student a high honor record is amaintained, the scholarship will be renewed for the remaining three years.

Since all applicants for admission to the Harvard Medical School are ipso facto candidates for Harvard Medical School Prize Scholarships, no special application is to be made. Holders of Harvard Medical School Prize Scholarships are not expected to marry while they are receiving this stipend, except with permission of the Committee on Award.

November 30, 1936.

NECROLOGY

'80—MATTHEW VASSAR PIERCE died at Milton, Mass., January 24, 1937.

'81—EDWARD STEPHEN HAYES died at Portland, Ore., February 11, 1936.

'81—SIMEON McCAUSLAND METCALF died at Los Angeles, Calif., April 28, 1936.

'83—ROLAND BARKER WHITTRIDGE died at St. Augustine, Florida, December 11, 1936.

'84—WILLIAM MERRITT CONANT died at Boston, February 18, 1937.

'85—SAMUEL GEORGE BOYD died at San Francisco, Calif., January 23, 1937.

'85—MYRON HENRY DAVIS died at Saugus, Mass., January 21, 1937.

'85—STEPHEN MASURY GORDON died at Fall River, Mass., March 20, 1937.

'85—FRANCIS MICHAEL O'DONNELL died at Newtonville, Mass., February 10, 1937.

'92-'93—WRIGHT BUTLER BEAN died at Stafford Springs, Conn., January 18, 1937.

'93—LORENZO CHAPMAN died at Grand Falls, N. B., Can., January 5, 1937.

'94—PAUL FRANCIS ELA died at Whitinsville, Mass., February 19, 1937.

'94—PHILIP HAMMOND died at Boston, Mass., February 7, 1937.

'96—ROBERT BATTEY GREENOUGH died at Boston, Mass., February 16, 1937.

'97—CHARLES EDWIN BRIGGS died at Cleveland, Ohio, January 30, 1937.

'02—TIMOTHY J. SULLIVAN died at Waban, Mass., March 28, 1937.

'04—NATHANIEL NILES MORSE died at Goffstown, N. H., February 24, 1937.

'04—DANIEL PAUL O'BRIEN died at New London, Conn., February 27, 1937.

'05—EUGENE LEO MAGUIRE died at Somerville, Mass., February 26, 1937.

'06—HAROLD ELMER ELLSWORTH STEVENS of Roscoe, Calif., has been reported deceased.

'31—FRANCIS MARION DAVIS, JR., died near Morehead, N. C., November 15, 1936.

'31—FRANK JESSE OTIS died at South Hennepin, Ill. on January 11, 1937.

ALUMNI NOTES

'81—Frederick W. Johnson reports that he is "getting on fairly steady on all six".

'85—Charles A. DeLand and Mrs. DeLand celebrated their golden wedding day on September 8, 1936.

'87—Henry B. Jacobs has been made president of the Baltimore Museum of Art.

'94—Carl A. Ewald who is living in Seattle, Wash., had in a recent issue of Northwest Medicine a description of a new respiratory apparatus which he invented.

'94—Henry F. R. Watts, who has been since 1909 a member of the Boston Health Department and for ten years physician in charge of the X-ray service, has been appointed city health commissioner.

'97—Richard F. O'Neil was a delegate from the Massachusetts General Hospital, Boston to the Public Health Conference on Venereal Disease Control held in Washington, D. C., in December.

'98—Lucretius H. Ross has just finished his 37th year as attending physician to the Vermont Soldier's Home.

'99—Willis G. Jefferson is at Peak's Island, Me., and would be pleased to hear from any member of the class of '99.

'01—J. Forrest Burnham has been elected secretary of the medical staff of the Lawrence General Hospital, Lawrence, Mass.

'02—Arthur B. Emmons, 2d, writes that he has been strike-bound on the Pacific Coast. He started on October 1, 1936, for Hawaii, to meet his son, who was returning from the British-American Himalayan Expedition, which reached its objective, the summit of Nanda Devi, 25,660 feet, the highest peak yet climbed by man.

'02—George S. Hathaway has been transferred from duty at the United States Training Station, San Diego, Calif., to "duty" as Medical Officer in Command, United States Naval Hospital, Newport, R. I.

'02—Fletcher Hodges reports that the Harvard alumni at Indianapolis are active in preparation for the annual meeting of the Associated Harvard Clubs to be held there May 15 and 16. Among them are several graduates from the Medical School.

'02—Francis W. Palfrey has been elected presi-

dent of the senior staff of the Boston City Hospital.

'03—John W. Lane has been appointed commissioner of public institutions in the city of Boston to succeed Frederick A. Washburn, '96, who has resigned. Lane is president of the staff of St. Margaret's Hospital, Dorchester.

'04—Fred E. Clow has been elected secretary of the New Hampshire State Board of Registration in Medicine.

'04—Frederick C. Kidner is American president-elect for 1938 of the American Orthopaedic Association.

'06—John M. Birnie has moved his offices to the Tarbell Watters Building, 145 Chestnut St., Springfield, Mass.

'09—F. Gorham Brigham has been reappointed physician-in-chief of the Deaconess and Palmer Memorial Hospitals, Boston.

'10—Frank M. Howes has been elected president and a member of the board of St. Luke's Hospital, New Bedford, Mass.

'10—Cleon W. Symonds whose office is in the First Trust Building, Pasadena, Calif., is limiting his practice to nose, ear and throat.

'11—Donald J. Knowlton reports that this is his 24th year in general practice at Ellsworth, Me., and his 3rd year as president of his local society.

'12—A. William Reggio has been appointed chairman for Massachusetts on the New England Regional Committee of Fractures, of the American College of Surgeons.

'13—Lewis W. Hackett, assistant director of the International Health Division of the Rockefeller Foundation and representative of the Foundation in Italy and Albania gave six illustrated lectures on "Man against Malaria in Southern Europe" at Huntington Hall, Boston, during the month of February. These lectures were given under the auspices of the Lowell Institute.

'13—William G. Lennox is touring the country making a survey of the facilities for the study and treatment of epilepsy. He is in charge of the research project in epilepsy at the Neurological Unit, Boston City Hospital.

'14—Stanley Cobb has been elected chairman of the Section on Convulsive Disorders of the American Psychiatric Association and vice president of the Association for Research in Nervous and Mental Diseases, a national society which meets annually in New York.

'14—Frederick T. Hill has been elected president of the New England Otological and Laryngological Society for 1937.

'17—Horace M. Baker, chief surgeon of the Baker Sanatorium Inc., Lumberton, N. C., has just completed a \$20,000 addition to the institution. Baker founded the sanatorium sixteen years ago.

'19—Forrest B. Ames is vice-president of the Harvard Club of Bangor, Me., chairman of the

